

PERFORMANCE OF POWER TILLER WITH DIFFERENT CAGEWHEELS IN WET LAND

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ABSTRACT

To evaluate the performance power tiller for different angle and diameter of cage wheel was tested in the inceptisol at 0-5 cm, 5-10 cm, 10-15 cm and 15-20 cm, depth of water level. The cage wheel 73 cm diameter with 30⁰, 45⁰, and 60⁰ lug angle and different diameter of 68 cm, 73 cm and 78 cm of 30⁰ lug angle of cage wheel, was tested in four water levels of 5, 10, 15 and 20 cm in wet land field. The better result was found in cage wheel C1 of 30⁰ lug angle with 73 cm diameter give better performance than other cage wheel. The cage wheel showed the best result in 15 cm water level in respect to minimum time requirement for puddling operation 8.69 h/ha, maximum working speed 1.82 kmph, actual field capacity 0.118 ha/h with 85.73 % field efficiency, less fuel consumption 9.39 l/ha, minimum slippage 10.41 %, with maximum puddling index of 29.25 % and less sinkage 2.33 cm on lug surface.

KEYWORDS: Time of Operation, Actual Field Capacity, Field Efficiency, Slippage, Sinkage, Puddling Index